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TwinCAT Library for PLCInfo

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| **Library** |
| Title | PLCInfo |
| Version | 1 |
| TwinCAT version | V2.11.0 |
| Name space |  |
| Author | Daniel Sigg |
| Description | Information about PLC status/locationIncludes system information |
| Error Code | None |
| Library Dependencies | Error, SaveRestore, TcSystem |

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| **User Interface Type**TYPE IfoIdEnum : (IfoH1, IfoL1, IfoH2, IfoT1, IfoI1)END\_TYPE; |
| Type Name | IfoIdEnum |
| Description | Identification of IFO |
| Definition | ENUM |
| Element | Name: IfoH1Description: H1 |
| Element | Name: IfoL1Description: L1 |
| Element | Name: IfoH2Description: H2 |
| Element | Name: IfoT1Description: T1 |
| Element | Name: IfoI1Description: I1 |

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| **User Interface Type**TYPE LocationIdEnum : (Corner, EndX, EndY, MidX, MidY)END\_TYPE; |
| Type Name | LocationIdEnum |
| Description | Location of PLC |
| Definition | ENUM |
| Element | Name: CornerDescription: Located in Corner station |
| Element | Name: EndXDescription: Located in EX station |
| Element | Name: EndYDescription: Located in EY station |
| Element | Name: MidXDescription: Located in MX station |
| Element | Name: MidYDescription: Located in MY station |

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| **User Interface Type**TYPE PlcTaksInfoStruct :STRUCT Active: BOOL; Name: STRING(16); Priority: DINT; CycleCount: UDINT; CycleTime: LREAL; LastExecTime: LREAL; CycleTimeExceeded: BOOL; CycleTimeError: UDINT;END\_STRUCTEND\_TYPE; |
| Type Name | PlcTaksInfoStruct |
| Description | Structure used in the user interface to describe the information for all available tasks in the PLC. |
| Definition | STRUCT |
| Output Tag | Name: ActiveType: BOOLDescription: True if task is configured and active |
| Output Tag | Name: NameType: STRING(16)Description: Name of task |
| Output Tag | Name: PriorityType: DINTDescription: Priority of task |
| Output Tag | Name: CycleCountType: UDINTDescription: Cycle count of task |
| Output Tag | Name: CycleTimeType: LREALDescription: Predefined cycle time in µs |
| Output Tag | Name: LastExecTime Type: LREALDescription: Cycle time of last executed cycle in µs.  |
| Output Tag | Name: CycleTimeExceededType: BOOLDescription: True if cycle time exceeded allocated time. |
| Output Tag | Name: CycleTimeErrorType: UDINTDescription: Error counter (updated at rate of task running PLCInfo) |
| **User Interface Type**TYPE PlcInfoStruct :STRUCT IfoId: IfoIdEnum; LocationId: LocationIdEnum; Status: ErrorStruct; SvnRevision: DINT; StartTime: TIMESTRUCT; CurrentTime: TIMESTRUCT; Hostname: T\_MaxString; CpuUsage: UDINT: SysLatencyActual: UDINT; SysLatencyMax: UDINT: RuntimeNumber: DINT; ProjectName: STRING(32); NumberOfTasks: DINT; OnlineChangeCount: DINT; RetainLoaded: BOOL; PersistantLoaded: BOOL; Task: ARRAY [1..4] OF PlcTaksInfoStruct;END\_STRUCT;END\_TYPE; |
| Type Name | PlcInfoStruct |
| Description | Structure used in the user interface |
| Definition | STRUCT |
| Output Tag | Name: IfoIdType: IfoIdEnumDescription: Interferometer identification |
| Output Tag | Name: LocationIdType: LocationIdEnumDescription: Building Location |
| Output Tag | Name: StatusType: ErrorStructDescription: Calls error handler |
| Output Tag | Name: SvnRevisionType: DINTDescription: Subversion Revision |
| Output Tag | Name: StartTimeType: TIMESTRUCTDescription: PLC start time |
| Output Tag | Name: CurrentTimeType: TIMESTRUCTDescription: PLC current time |
| Output Tag | Name: ElapsedTimeType: DINTDescription: Elapsed time since last restart in sec |
| Output Tag | Name: HostnameType: T\_MaxStringDescription: PLC host name |
| Output Tag | Name: CpuUsageType: UDINTDescription: CPU usage |
| Output Tag | Name: SysLatencyActualType: UDINTDescription: Actual system latency |
| Output Tag | Name: SysLatencyMaxType: UDINTDescription: Max system latency |
| Output Tag | Name: RuntimeNumberType: DINTDescription: PLC runtime number |
| Output Tag | Name: ProjectNameType: STRING(32)Description: Name of PLC project |
| Output Tag | Name: NumberOfTasksType: DINTDescription: Number of active tasks in current PLC |
| Output Tag | Name: OnlineChangeCountType: DINTDescription: The number of online changes made since the last complete download |
| Output Tag | Name: RetainLoadedType: BOOLDescription: Valid retain data loaded |
| Output Tag | Name: PersistentLoadedType: BOOLDescription: Valid persistent data loaded |
| Output Tag | Name: TaskType: ARRAY [1..4] OF PlcTaksInfoStructDescription: Information on active tasks |
| **Function Block**TYPE PlcInfoFB:VAR\_INPUT Request: SaveRestoreEnum; Ifo: IfoIdEnum; Loc: LocationIdEnum; Svn: DINT; Status: ErrorStruct;END\_VAR;VAR\_OUTPUT CurrentTime: TIMESTRUCT; CurrentTimeValid: BOOL;END\_VAR;VAR\_IN\_OUT Plc: PlcInfoStruct;END\_VAR:END\_TYPE; |
| Type Name | PlcInfoFb |
| Description | Function block used to monitor the PLC status/location  |
| Definition | Function Block |
| Input Argument | Name: RequestType: SaveRestoreEnumDescription: Request for save/restore/safe mode or noop |
| Input Argument | Name: IfoType: IfoIdEnumDescription: IFO identification |
| Input Argument | Name: LocType: LocationIdEnumDescription: Location ID |
| Input Argument | Name: SvnType: DINTDescription: Subversion status |
| Input Argument | Name: StatusType: ErrorStructDescription: Calls error handler |
| Output Argument | Name: CurrentTimeType: TIMESTRUCTDescription: Current time |
| Output Argument | Name: CurrentTimeValidType: BOOLDescription: Current time valid |
| In/out Argument | Name: PlcType: PlcInfoStructDescription: User interface structure |